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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/098,615	03/18/2002	Michael Aronowich	82386	3678
20529	7590	08/04/2006	EXAMINER FERGUSON, DENISE	
NATH & ASSOCIATES 112 South West Street Alexandria, VA 22314			ART UNIT 3623	PAPER NUMBER

DATE MAILED: 08/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/098,615

Applicant(s)

ARONOWICH ET AL.

Examiner

Denise Ferguson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 06/06/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

1. The following is a non-final office action in response to the communication received on March 18, 2002. Claims 1-32 are now pending in this application.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-16, 21-23, and 29-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claims 1-16, 21-23, and 29-31, the phrase "truncated sales value" renders the claims indefinite because no definition is provided. For the purpose of examination, "truncated sales value" is interpreted to be the total sales prior to the point of inventory depletion.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-32 rejected under 35 U.S.C. 103(a) as being unpatentable over Ramaswamy et al. (US Patent No. 6006202).

As per claim 1, Ramaswamy et al. disclose a computer implemented method for calculating the hidden demand for a consumer item at an occurrence of a sellout, the method comprising the steps of:

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(a) generating a new data set of sales values from the time series of sales values for the consumer item at the outlet, the new set of sales values excluding the truncated sales value at at least the occurrence of the sellout (col. 3, lines 5-42; The system generates new sales values K_i which defines lost sales within a time interval T from sales represented by variable Y_i which the total of stock on hand plus on order. Both lost sales and stock on order represent hidden demand, and the new sales values K_i defines only lost sales within a time interval T and does not include truncated sales over the observation period).

(b) applying a statistical causal time series forecasting model of count data on the new data set of sales values to determine a forecasted mean demand value for the consumer item at the occurrence of the sellout (col. 1, lines 38-48; Remaswamy et al. disclose the use of statistics and sales value calculation as a function of time in demand forecasting. col. 3, lines 5-42; The system generates new sales values K_i within a time interval T from sales represented by variable Y_i defining the total of stock on hand plus on order, indicating a sellout. Abstract; The system calculates and analyzes average inventory and lost sales or demand); and

(c) estimating the hidden demand at the occurrence of the sellout using a single parameter probability distribution with a parameter assuming the forecasted mean demand value (col. 1, lines 42-48; Remaswamy et al. disclose the use of probability distribution functions in demand forecasting. col. 3, lines 5-42; The system calculates hidden demand indicated by lost sales, expressed as variable K_i , and the realized demand, expressed as variable D_i).

Ramaswamy et al. do not expressly disclose a seasonal forecasting model for perishable items. However, the method of Ramaswamy et al. can be used for seasonal or non-seasonal forecasting for perishable or non-perishable items. That the claimed method includes a seasonal forecasting model for perishable items does not distinguish the claim over the prior art since the intended use does not change the overall method. The intended use must result in manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

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Accordingly, it would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the method disclosed by Ramaswamy et al. in a seasonal forecasting model for perishable items in order to generate values of simulated demand over a given time horizon.

As per claim 2, Ramaswamy et al. disclose the method according to claim 1 as discussed above, but do not expressly disclose the single parameter probability distribution is Poisson with a parameter λ assuming the forecasted mean demand value whereby:

$$H = \lambda \left(1 + \frac{f(D)}{1 - F(D)} \right) - D$$

where $f(\bullet)$ is the Poisson probability distribution function, and $F(\bullet)$ is the Poisson cumulative distribution function, and D is the draw of the perishable consumer item leading up to the occurrence of the sellout.

It is old and well-known in the art of demand forecasting to employ a Poisson probability function in order to predict the probable distribution of a series of sales events. In addition, the cumulative distribution function is also an old and commonly used tool to describe the collective probability distribution.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to utilize a Poisson probability and cumulative distribution functions in order to determine the cumulative probable distribution of sales events such as the draw of the consumer item leading up to the occurrence of a sellout.

As per claim 3, Ramaswamy et al. disclose the method according to claim 1 as discussed above, and further disclose that the new data set of sales values excludes the truncated sales values at all occurrences of sellouts over the observation period (col. 3, lines 5-42; The new sales values K_i defines only lost sales within a time interval T and does not include truncated sales over

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the observation period).

As per claim 4, Ramaswamy et al. disclose the method according to claim 1 as discussed above, and further disclose the step (d) of: calculating the value of at least one performance metric on the basis of adjusted sales data compensating for hidden demand at occurrences of sellouts over an evaluation period (col. 3, lines 27-35; Performance measures are calculated based on sales data K_i within a time interval T from sales represented by variable Y_i defining the total of stock on hand plus on order, indicating a sellout).

As per claim 5, Ramaswamy et al. disclose the method according to claim 1 as discussed above, and further disclose the step (d) calculating the total stockout for the consumer item at the outlet over the evaluation period for evaluating the efficacy of a distribution policy for the consumer item at the outlet over the evaluation period (col. 3, lines 31-32; The system generates total stockout K_i within a time period. col. 1, lines 28-32; The system is used to determine an optimized inventory policy and support inventory distribution decisions).

Ramaswamy et al. do not expressly disclose that the consumer item is perishable. However, the method disclosed by Ramaswamy et al. can be used for sales forecasting and analysis of perishable items as discussed above. That the claimed method discloses perishable items does not distinguish the claim over the prior art since the intended use does not change the overall method. The intended use must result in manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Accordingly, it would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the method disclosed by Ramaswamy et al. in a forecasting model for perishable items in order to generate values of simulated demand over a given time horizon.

As per claim 6, Ramaswamy et al. disclose the method according to claim 4 as discussed above, and further disclose the step (d) calculating the value of at least one performance metric relating to the sale of the perishable consumer item at the outlet which could be expected to occur over the evaluation period by virtue of the consumer item being delivered in accordance with a recommended distribution policy as opposed to an actual distribution policy for comparing the efficacy of the recommended distribution policy to the efficacy of the actual distribution policy over the evaluation period (col. 3, lines 27-35; Performance measures are calculated based on sales data K_i within a time interval T . col. 3, line 9; Delivered items are represented by variable W , stock on hand. col. 3, lines 20-35; The system provides decision support for a given time period according to the disclosed policy. col. 3, lines 55-59; An algorithm provides data to facilitate analysis of the effect of varying data, and each iterative simulation provides hypothetical data as a recommended policy, and determines the effect of change in performance. col. 2, lines 38-44; The system provides data to compare actual distribution policy to simulated hypothetical policy).

Ramaswamy et al. do not expressly disclose that the consumer item is perishable. However, the method disclosed by Ramaswamy et al. can be used for sales forecasting and analysis of perishable items as discussed above. That the claimed method discloses perishable items does not distinguish the claim over the prior art since the intended use does not change the overall method. The intended use must result in manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Accordingly, it would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the method disclosed by Ramaswamy et al. in a forecasting model for perishable items in order to generate values of simulated demand over a given time horizon.

As per claim 7, Ramaswamy et al. disclose the method according to claim 6 as discussed above, and further disclose the step (d) calculating the value of at least one performance metric from the following list of performance metrics: change in sales, change in returns, change in number of

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sellouts, and change in stockout (col. 3, lines 55-63; The system calculates the effect on performance due to unit changes in specified reorder points representing a sellout).

As per claim 8, Ramaswamy et al. disclose the method according to claim 1 as discussed above, but do not expressly disclose that the perishable consumer item is a printed media publication. However, the method disclosed by Ramaswamy et al. can be used for sales forecasting and analysis of perishable items as discussed above. That the claimed method discloses that the perishable item is a printed media does not distinguish the claim over the prior art since the intended use does not change the overall method. The intended use must result in manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Accordingly, it would have been obvious to a person of ordinary skill in the art at the time of the invention to utilize the method disclosed by Ramaswamy et al. in a forecasting model for perishable items in order to generate values of simulated demand over a given time horizon.

7. Claims 9-16, drawn to a system capable of executing the steps of the method in claims 1-8, recite substantially similar subject matter as claims 1-8 above and are therefore rejected on the same basis as claims 1-8.

8. Claims 17-32 drawn to a method recite substantially similar subject matter as claims 1-8 above and are therefore rejected on the same basis as claims 1-8.

37 CFR § 1.105 - Requirement for Information

9. Applicant and the assignee of this application are required under 37 CFR 1.105 to provide the following information that the examiner has determined is reasonably necessary to the examination of this application.

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10. The information is required to:

- a. extend the domain of search for prior art
- b. document the level of skill and knowledge in the art of demand forecasting.
- c. identify products and services embodying the disclosed subject matter, particularly the disclosed equation shown in claims 2, 10, 22, and 30.

11. In response to this requirement, please provide all of the following:

- d. the names of all known products or services (in addition to the disclosed commercially available Demantra TM Demand Planner forecast engine) that have incorporated the claimed subject matter.
- e. the citation and a copy of each publication that any of the applicants relied upon to draft the claimed subject matter. For each publication, please provide a concise explanation of the reliance placed on that publication in distinguishing the claimed subject matter from the prior art. Of particular interest is the source of equation shown in claims 2, 10, 22, and 30. Did the inventors develop the equation? Which components of the equation are unique, and which are well-known in the art? Is the equation from a printed publication? Please provide pages of any relevant publication.

12. In responding to those requirements that require copies of documents, where the document is a bound text or a single article over 50 pages, the requirement may be met by providing copies of those pages that provide the particular subject matter indicated in the requirement, or where such subject matter is not indicated, the subject matter found in applicant's disclosure.

13. The fee and certification requirements of 37 C.F.R. § 1.97 are waived for those documents submitted in reply to this requirement. This waiver extends only to those documents within the scope of this requirement under 37 C.F.R. § 1.105 that are included in the applicant's first complete communication responding to this requirement. Any supplemental replies subsequent to the first communication responding to this requirement and any information disclosures beyond the scope of

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this requirement under 37 C.F.R. § 1.105 are subject to the fee and certification requirements of 37 C.F.R. § 1.97.

14. The applicant is reminded that the reply to this requirement must be made with candor and good faith under 37 CFR 1.56. Where the applicant does not have or cannot readily obtain an item of required information, a statement that the item is unknown or cannot be readily obtained will be accepted as a complete response to the requirement for that item.

15. This requirement is an attachment of the enclosed Office action. A complete response to the enclosed Office action must include a complete response to this requirement. The time period for reply to this requirement coincides with the time period for reply to the enclosed Office action, which is 3 months.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Shipman (US Patent No. 5819232) discusses a method and computer model to control a distribution process and determine a demand forecast using planned inventory.
- Scheer (US Publication No. 2002/0143669 A1) discusses a method for managing inventory within a supply chain by providing demand forecasts to establish base stocking levels and reorder points.
- Singh et al. (US Patent No. 7080026 B2) discuss a system and method for demand forecasting that enables scenario comparisons.
- Jenkins et al. (US Publication No. 2002/0188499 A1) discuss a system and method for ensuring order fulfillment and matching supply to demand.
- Bradford et al. (Estimating the demand pattern for C category items, *Journal of the Operational Research Society*, 1997) discuss a methodology for forecasting the demand pattern for inventory items using a Poisson distribution.

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- Price, et al. (How to Prepare Inventory Forecasts for Very Low Demand Items, *Journal of Business Forecasting*, 1986) discuss the use of a Poisson distribution determining stocking criteria and forecasting methods.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Denise Ferguson whose telephone number is (571) 272-6392. The examiner can normally be reached on Monday - Friday, 8 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on (571) 272-6729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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07/21/2006

Romain Jeanty
Primary Examiner
Art Unit 3623